ABSTRACT OF THE DISCLOSURE

The invention relates to a general process by which recombinantly derived variable domains of antibodies encompassing either or both light and heavy variable regions with or without respective constant regions are engineered and selected for identification of unique surface domains of pharmaceutical targets or parts thereof which regulate target function. The recombinant antibodies are useful as reagents for high volume, rapid screening of occupation of the active surface domains by natural or synthetic entities. This invention is also directed to elucidating the three dimensional conformation of the antibodies, or parts thereof, which bind to the pharmaceutical targets and confers activity. Methods for creating high resolution molecular models which can direct the synthesis of biologically active small organic molecules useful as viable discovery drug leads are also provided.